

**REMARKS**

Claims 1-5, 8, 9 and 16-34 are all the claims pending in the application. By this amendment, claim 4 is amended for the purpose of clarity and precision, and not in a manner that is believed to be narrowing. In view of the foregoing amendments and following Remarks, applicant respectfully requests withdrawal of the rejections and allowance of the claims.

**I. Allowable Subject Matter**

Applicant thanks the Examiner for indicating the allowance of claims 9, 21-22, and 25-34, and the allowability of claim 24, pending amendment. However, applicant respectfully declines to amend the claims at this time, pending further reconsideration of the rejection of claims 1-4 and 16-19, as well as claims 8, 20 and 23, for at least the reasons discussed below.

**II. Claims 1-4 and 16-19 are novel**

Claims 1-4 and 16-19 stand rejected under 35 USC 102(b) due to alleged anticipation over Deguchi based on its publication date of September 17, 2002.

As a preliminary matter, applicant notes that the present application is a National Stage entry of a PCT application that was filed on December 27, 2001. Thus, applicant respectfully submits that the applicant is entitled to this filing date for the purposes of examination, as the international filing date is the only filing date available for the application, and the §371(c)(1), (2) and (4) dates are only relevant for the purpose of patent term adjustment. *See MPEP §1893.03(b)-(c)*.

Because the publication date of Deguchi is after the filing date of the present application, applicant respectfully submits that Deguchi is disqualified as prior art under 35 U.S.C. § 102(b).

Accordingly, applicant respectfully requests withdrawal of the rejection based on citation of prior art having a publication date after the critical date of the present application.

Additionally, applicant respectfully submits that Deguchi is distinguishable for at least the following reasons.

Applicant notes that the Examiner is substituting laser diode 42 for laser diode 12. Applicant respectfully submits that the substitution still does not provide any structure for a modulator *other than the at least one pump source*, as explained in greater detail below.

The presently claimed invention is directed to an optical transmission system having a first supervisory unit associated with a device along an optical link. A modulator that is not the pump source superimposes the first supervisory signal on the first optical signal, which is sent from a terminal station. The pump source is provided along the optical link, and is configured to send a pump radiation on the optical link in a second direction, which is opposite of the first direction, and also cause Raman amplification of the first optical signal as well as the first supervisory signal.

Deguchi discloses a pumping source that supplies pump light to an optical transmission fiber line, so that at least part of the optical fiber transmission line produces Raman amplification to the optical signal. As illustrated in FIG. 12, a control circuit 16 regenerates the supervisory signal. Further, laser diodes 12, 42 are provided as pump sources, and the respective outputs are counter-propagating. Further, column 6, lines 32-38 of Deguchi disclose that the pump light may be intensity-modulated so that it is output from the laser diode 12 according to the updated supervisory signal, to thereby modulate the gain generated in the EDF 8 and superimpose the

updated supervisory signal on the main signal. However, Deguchi does not make any disclosure regarding the modulation and application of the output of the laser diode 42 to the EDF 8.

Applicant respectfully submits that the disclosure that applies to the laser diode 12 also applies to the laser diode 42 in this regard.

For example, but not by way of limitation, Deguchi discloses “intensity-modulating the pump light to be output from the laser diode 12 according to the updated supervisory signal to thereby modulate the gain generated in the EDF 8 and superimpose the updated supervisory signal on the main signal” at column 6, lines 34-38. Applicant respectfully submits that the pump source which is counter-propagating is thus gain-modulated in order for the supervisory signal to be superimposed thereon. Applicant respectfully submits that the operation of laser diode 42 also possesses these characteristics.

Applicant respectfully submits that Deguchi fails to disclose that the modulator is not the pump source, as recited in independent claim 1. More specifically, Deguchi does not disclose any structure that provides a further explanation of how modulation is performed. Applicant respectfully submits that Deguchi appears to be performing modulation at the pump source, which is distinguishable from the presently claimed invention. Applicant respectfully submits the Examiner’s substitution of laser diode 42 for laser diode 12 does cure this deficiency of Deguchi. For at least these reasons, applicant respectfully submits that Deguchi does not disclose all of the claimed combination of features recited in independent claim 1.

Additionally, applicant respectfully maintains that the presently claimed invention *teaches away* from the foregoing disclosure at page 6 lines 25-29 of the present application,

where "problem" b is described as a drawback of the related art. Applicant respectfully directs the Examiner to the following sentence of the specification: "However, the counter-propagating Raman amplifiers may hardly be gain-modulated in order to provide such supervisory signals by superposition on the signal light."). To overcome this related art problem, the presently claimed invention proposes the use of a modulator "other than the pump source for Raman amplification" (description, page 7 line 3). Applicant respectfully submits that the disclosure of Deguchi represents the subject matter that the present application teaches away from. Thus, applicant respectfully submits that Deguchi does not disclose, or even teach or suggest, the claimed combination of features recited in independent claim 1.

Dependent claims 2-4 and 16-19 depend from independent claim 1. Applicant respectfully submits that these dependent claims are allowable for at least the same reasons as independent claim 1, from which they depend.

Additionally, applicant respectfully submits that Deguchi fails to disclose that the first supervisory unit is adapted to discriminate a secondary supervisory signal carried by the first optical signal, as recited in claim 17, and that the first supervisory unit is adapted to feed the discriminated second supervisory signal to the at least one modulator, as recited in claim 18. More specifically, applicant respectfully submits that Deguchi does not include any detailed discussion of more than one supervisory signal on the first optical signal, as required by the claims.

While the Examiner argues that switches 26, 28 of Deguchi disclose this claimed feature, applicant respectfully submits that the switches 26, 28 of Deguchi are for selectively switching

between a first condition (optical signal and pump light are passed) and a second condition (optical signal, but not pump light, is passed). As also explained in Deguchi, switches 26, 28 permit remote control of the optical filter unit 24. However, applicant respectfully submits that Deguchi does not disclose or suggest more than one supervisory signal, as required by claims 17 and 18. Further, applicant respectfully submits that the portion of Deguchi cited by the Examiner does not disclose sufficient structure to show the relationship between a modulator and the discriminated supervisory signal (wherein the modulator is not the pump source, as required by claim 1).

For at least the foregoing reasons, applicant respectfully requests withdrawal of the anticipation rejections, and allowance of the claims.

### **III. Claims 8, 20 and 23 would not have been obvious**

Claims 8, 20 and 23 stand rejected under 35 USC 103(a) due to alleged obviousness over Deguchi in view of Sekiya (U.S. Patent No. 6,839,162, filed on September 10, 2001). Applicant respectfully submits that the Examiner's proposed combination of references fails to disclose or suggest all of the claimed combination of features recited in these claims.

As explained above, Deguchi is disqualified as a reference under 35 U.S.C. § 102(b). Accordingly, applicant respectfully submits that the rejection under 35 U.S.C. § 103 must also fall.

Further, claims 8, 20 and 23 depend from independent claim 1. Applicant respectfully submits that these claims are allowable for at least the same reasons as discussed above by applicant with respect to independent claim 1, from which they depend.

Thus, applicant respectfully requests withdrawal of the rejections, and allowance of these claims.

#### **IV. The Double Patenting Rejection**

Claim 16 stands rejected due to alleged obviousness type double patenting in view of U.S. application no. 10/500,036. Claim 16 is a dependent claim, which depends from independent claim 1. As independent claim 1 is not the subject of the double patenting rejection, and is believed to be allowable for at least the reasons discussed above with respect to Deguchi, applicant respectfully submits that dependent claim 16 is also allowable, at least by virtue of its dependency from independent claim 1.

In view of the foregoing, applicant respectfully submits that it is not necessary to submit a Terminal Disclaimer at this time. However, applicant reserves the right to submit such a Terminal Disclaimer in the future, should such a submission become necessary.

Accordingly, applicant respectfully requests withdrawal of the double patenting rejection, and allowance of claim 16.

#### **V. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

U.S. Application No. 10/500019  
Amendment Under 37 C.F.R. § 1.116

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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